AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS

1. (Currently Amended) A method for lung imaging, said method comprising:

triggering an image scan of at least a lung cross-section of a patient;

scanning the lung cross-section during at least one of an inspiration and an expiration of air by the patient to obtain lung image data; ~~and~~

measuring a local lung function during at least one of an inspiration and an expiration of air by the patient to obtain local lung function data; and

combining said lung image data and said local lung function data for use in diagnosis of the patient.

2. (Original) The method of claim 1, further comprising performing a preview scan of the patient to identify the lung cross-section for imaging.

3. (Canceled).

4. (Previously Presented) The method of claim 1, further comprising outputting said lung image data and said local lung function data.

5. (Previously Presented) The method of claim 1, further comprising processing said local lung function data to generate a plot of lung attenuation versus time or area versus time.

6. (Original) The method of claim 1, wherein said triggering step comprises triggering said image scan based on air flow in the patient's lung.

7. (Original) The method of claim 1, wherein said scanning step dynamically obtains said lung image data as at least one of air flow and air capacity in the lung are changing.

8. (Original) The method of claim 1, wherein said scanning step obtains said lung image data with at least one of air flow and air capacity in the lung held constant.

9. (Previously Presented) The method of claim 1, wherein said scanning step obtains lung image data during a sweep of at most 33ms.

10. (Original) The method of claim 1, wherein said scanning step obtains lung image data during a sweep of at most 50ms.

11. (Currently Amended) A diagnostic imaging system, said system comprising:

a trigger ~~for~~ triggering an imaging scan of said patient based on at least one of air flow in said lung, volume of said lung, movement of said lung, and density of said lung;

an energy source ~~for~~ generating an electron beam to strike a target;

a target ~~for~~ producing radiation in response to said electron beam, said radiation irradiating at least a portion of said lung of said patient;

a detector ~~for~~ receiving said radiation after said radiation irradiates said at least a portion of said lung of said patient during said imaging scan;

a data acquisition system ~~for~~ obtaining local lung image data from said detector based on said radiation; and

a reconstruction system ~~for~~ combining local lung function data and said lung image data for use in diagnosis of said patient.

12. (Original) The system of claim 11, further comprising an output for at least one of displaying, printing, and storing said lung function data and said lung image data.

13. (Previously Presented) The system of claim 11, wherein said imaging scan comprises an imaging sweep of at most 33ms.

14. (Original) The system of claim 11, wherein said imaging scan comprises an imaging sweep of at most 50ms.

15. (Original) The system of claim 11, wherein said reconstruction system processes said lung image data to generate a plot of lung attenuation versus time.

16. (Original) The system of claim 11, wherein said data acquisition system dynamically obtains said lung image data as at least one of air flow and air capacity in the lung are changing.

17. (Original) The system of claim 11, wherein said data acquisition system obtains said lung image data with at least one of air flow and air capacity in the lung held constant.

18. (Original) The system of claim 11, wherein said trigger further triggers a preview scan of said patient to identify said portion of said lung for imaging scan.

19. (Previously Presented) The system of claim 11, further including a spirometer for measuring function of a lung of a patient, said spirometer generating local lung function data based on at least one of air flow and volume in said lung.

20. (Previously Presented) The system of claim 19, wherein said trigger triggers said imaging scan based on said local lung function data from said spirometer.

21. (Previously Presented) method for detecting lung abnormalities in a patient, said method comprising:

obtaining local lung function data based on at least one of air flow and air volume in a lung;

triggering a scan of the lung based on the local lung function data;

scanning a cross-section of the lung to obtain a lung image in a single sweep; and

examining the local lung function data in conjunction with the lung cross-section image to detect abnormalities in the lung.